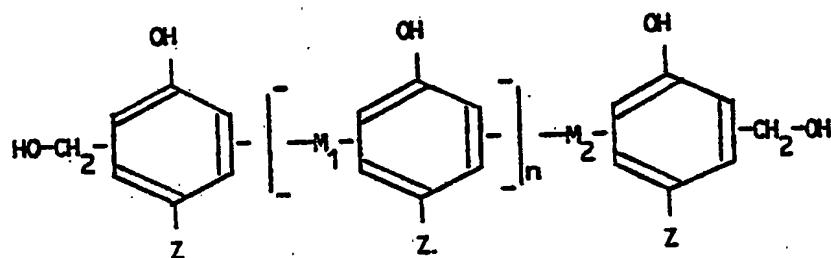


CLAIMS

1. An EPDM terpolymer and polyolefin based plasto-elastomeric composition containing the partially or fully cross-linked elastomeric phase, where for cross-linking it is possible to use, alternatively:

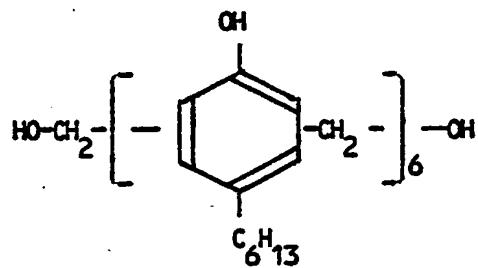
5 a) a formula (I) alkylphenol – formaldehyde non-halogenated phenolic resin, where  $M_1$  and  $M_2$  are  $-\text{CH}_2-$  or  $-\text{CH}_2\text{-C-CH}_2-$  radicals, which may be the same or different,  $Z$  is an alkylene, acrylic or alkyl radical containing between 10 4 and 16 carbon atoms, and  $n$  is an integer between 0 and 6:

(I)



b) a formula (II) phenol – formaldehyde non-halogenated resole resin with the formula:

(II)



and in which, in addition to the non-halogenated phenolic resin, an aromatic carboxylic acid is used for cross-linking, in particular salicylic acid, where for each part by weight of resin between 0.1 and 0.8 parts by weight of salicylic acid are used, the composition being characterised in that fillers of mineral origin are added to it, directly in the compounding step with cross-linking or 20

subsequently to the material that is already cross-linked, to achieve a total specific gravity of up to 2 kg/dm<sup>3</sup> and having hardnesses ranging from ShA 40 to ShD 50, the fillers of mineral origin being in a quantity which may be as much as almost 90% by weight of the composition.

5

2. The plasto-elastomeric composition according to claim 1, characterised in that polyolefin is the product of the copolymerisation of olefinic monomers selected from ethylene, propylene, 1-butene, 1-pentene, 1-hexene, 4-methyl-1-pentene, 3-methyl-1-pentene, 3,3-dimethyl-1-butene, 3-methyl-1-hexene, 2,4,4 trimethyle-1-pentene and the like.

10

3. The composition according to either of the foregoing claims, wherein the part to which fillers of mineral origin are not added contains between 10 and 90% of polyolefin and between 90 and 10% of a EPDM terpolymer.

15

4. The composition according to claim 3, wherein the EPDM terpolymer consists of at least two olefinic monomers and one dienic monomer conjugated or not conjugated in the main polymeric chain.

20

5. The composition according to claim 4, wherein the olefinic monomers are selected from ethylene, propylene, butene-1.

25

6. The composition according to claim 4, wherein the dienic monomer is selected from ethylidene-norbornene, 1,4-hexadiene, dicyclopentadiene, 2-methyl-1,4-pentadiene, 1,4,9-decatriene, 1,5-cyclopentadiene, polybutene, polybutadiene and their derivatives.

30

7. The plasto-elastomeric composition according to any of the foregoing claims, wherein the fillers of mineral origin are calcium carbonate CaCO<sub>3</sub> which may or may not be coated, pure or impure, precipitated or not.

8. The plasto-elastomeric compound according to claim 7, wherein the calcium

carbonate has a typical specific gravity of 2.71 g/cm<sup>3</sup>.

9. The plasto-elastomeric composition according to any of the claims from 1 to 6, wherein the fillers of mineral origin are aluminium hydroxide – chemical formula Al(OH)<sub>3</sub>.
10. The plasto-elastomeric compound according to claim 9, wherein the aluminium hydroxide has a typical specific gravity of 2.42 g/cm<sup>3</sup>.
- 10 11. The plasto-elastomeric composition according to any of the claims from 1 to 6, wherein the fillers of mineral origin are magnesium hydroxide – chemical formula Mg(OH)<sub>2</sub>.
12. The plasto-elastomeric composition according to any of the claims from 1 to 6, 15 wherein the fillers of mineral origin are Barytes – chemical formula BaSO<sub>4</sub>.
13. The plasto-elastomeric compound according to claim 12, wherein the Barytes is a barium sulphate with different colours and has a typical specific gravity of 4.48 g/cm<sup>3</sup>.
- 20 14. The plasto-elastomeric composition according to any of the claims from 9 to 11, wherein the magnesium and/or aluminium hydroxide are present in quantities of up to 75%, giving the product flame-proof characteristics.